

# PATENT ABSTRACTS OF JAPAN

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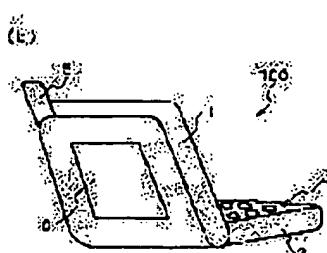
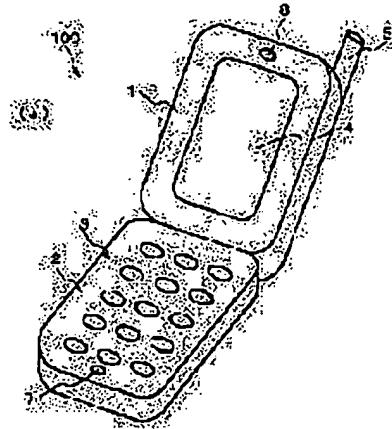
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## (54) PORTABLE ELECTRONIC EQUIPMENT

### (57)Abstract:

PROBLEM TO BE SOLVED: To provide a portable electronic equipment in which a person looking at it has less unpleasant feeling, the operability of the keyboard of the portable electronic equipment can be improved and its driving time can be postponed without drastically changing the outer appearance of the portable electronic equipment.

SOLUTION: This portable electronic equipment is provided with the keyboard (3), a first display device (4) on which operation information that changes in accordance with an operation of the keyboard (3) is displayed and which is also arranged on the front face of the housing, a second display device (6) which has a display screen on which



advertisement information is displayed and which is also arranged on the rear face of the housing, a memory for storing the advertisement information, and an internal computer for receiving the advertisement information, writing the advertisement information in the memory and performing display control of the second display device (6) so as to show display corresponding to the advertisement information read from the memory on the display screen.

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## [Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to pocket mold electronic equipment, such as a portable telephone and a pocket mold computer.

[0002]

[Description of the Prior Art] As electronic equipment of a pocket mold, the portable telephone and the pocket mold computer have spread. Various gestalten exist even to the product excellent in the portability called PDA (Personal Digital Assistance) besides the comparatively large-sized product with which a pocket mold computer is called a notebook computer. Motion control of the pocket mold electronic equipment is carried out by actuation of the keyboard formed in the control unit. The contents of motion control are displayed on the display prepared in pocket mold electronic equipment.

[0003] The contents of the information input accompanying motion control are going across the pocket mold computer variably among pocket mold devices. For this reason, a keyboard with many keys is installed so that an information input can be performed easily. On the other hand, since the applications with a main keyboard are the inputs of the telephone number, as for a portable telephone, any keys other than a figure input key are hardly installed. For this reason, an alphabetic character input is also performed using a figure input key.

[0004] Moreover, pocket mold electronic equipment mainly operates considering a rechargeable battery as a power source. Pocket mold electronic equipment can equip with two or more rechargeable batteries with which capacity differs according to the drive time amount. When a long duration drive is desired, pocket mold electronic equipment is equipped with a mass rechargeable battery. When the drive of a short-time drive is sufficient for things, pocket mold electronic equipment is equipped with a standard rechargeable battery.

[0005]

[Problem(s) to be Solved by the Invention] Pocket mold electronic equipment has the high frequency used outdoors, and the busy condition has many opportunities to touch the public notice, and may be reflected as unsightly scene for a surrounding person.

[0006] Furthermore, since text is inputted especially about a portable telephone among pocket mold electronic equipment using a numerical keypad, it is hard to say that operability is good.

[0007] Moreover, as for pocket mold electronic equipment, an appearance is designed supposing wearing of a standard rechargeable battery. For this reason, when equipped with a mass rechargeable battery, the appearance of pocket mold electronic equipment changed a lot, and had caused portable aggravation and unsightliness.

[0008] The pocket mold electronic equipment which can extend drive time amount is offered without this invention's being able to reduce the situation where those who looked at pocket mold electronic equipment sense unsightliness, and being able to raise the operability of the keyboard of pocket mold electronic equipment, and changing the appearance of pocket mold electronic equipment sharply.

[0009]

[Means for Solving the Problem] Above-mentioned The means for solving a technical problem is expressed as follows. The account of \*\* of a number, the notation, etc. is carried out to the technical matter which appears during the expression with parenthesis () give the number, a notation, etc. to the technical matter currently especially expressed by the technical matter which constitutes the gestalt or two or more examples of at least one operation in two or more gestalten of operation of this invention, or two or more examples, and the drawing corresponding to the gestalt or example of the operation -- it is in agreement with a \*\*\*\*\* reference number, a reference designator, etc. Such a reference number and the reference designator clarify correspondence and pons delivery with a technical matter given in a claim, the gestalt of operation, or the technical matter of an example. Such correspondence and pons delivery do not mean that a technical matter given in a claim is limited to the gestalt of operation, or the technical matter of an example, and is interpreted.

[0010] The 1st display with which the actuation information which changes according to actuation of a keyboard (3) and a keyboard (3) is displayed, and the pocket mold electronic equipment by this

invention is arranged on the surface of a case (4), The 2nd display arranged at the rear face of a case with the display screen where advertising information is displayed (6), It has the internal computer which performs the display control of the 2nd display (6) so that the display corresponding to the advertising information which accepted the memory which memorizes advertising information, and advertising information, and wrote in memory, and was read in memory may be displayed on the display screen.

[0011] The 1st display with which the actuation information which changes according to actuation of a keyboard (3) and a keyboard (3) is displayed, and other pocket mold electronic equipment by this invention is arranged on the surface of a case (1) (4), It has the 2nd display (25) which advertising information is displayed and is arranged at the rear face of a case, and a case (1) is equipped with the notch (6a) by which it is equipped with the 2nd display (25) for forming some cases (1).

[0012] Other pocket mold electronic equipment by this invention is equipped with the internal computer which drives said two or more light emitting devices so that said which color may emit light according to the mode of operation set up by actuation of a keyboard (3) with two or more keys to which display information was set, and two or more light emitting devices which emit light in two or more colors corresponding to said predetermined color, and a keyboard (3) with the fluorescent material made into the light of a predetermined color.

[0013] The internal computer by which other pocket mold electronic equipment by this invention performs motion control according to actuation of a keyboard (3) and a keyboard (3), The power supply terminal which is electrically combined with the power unit which supplies power to an internal computer, and a power unit, and receives supply of power from the exterior (23), It has a strap (20) with the annular cable with which an end is electrically combined with the cell electrode holder (22) with which it is equipped with a cell by the cell electrode holder (22), and many items are electrically combined with a power supply terminal (23).

[0014] The advertising approach which used the pocket mold electronic equipment by this invention The 1st display which the actuation information which changes according to actuation of a keyboard (3) and a keyboard (3) is displayed, and is arranged on the surface of a case (1) (4), The 2nd display arranged at the rear face of a case (1) with the display screen where advertising information is displayed (6), Accept from the memory which memorizes advertising information, and advertising information, and it writes in memory. Pocket mold electronic equipment equipped with the internal computer which performs the display control of the 2nd display (6) so that the display corresponding to the advertising information read in memory may be displayed on the display screen (100,101,102), The information source of supply which supplies advertising information is combined with pocket mold electronic equipment, and an internal computer performs the display control of the 2nd display (6) based on the advertising information supplied from an information source of supply.

[0015] The advertising approach which used the pocket mold electronic equipment by this invention consists of a terminal unit with which two or more advertising information was memorized for the information source of supply, and an internal computer stores in memory the advertising information outputted from a terminal unit.

[0016] The advertising approach which used the pocket mold electronic equipment by this invention An information source of supply consists of a website where two or more advertising information was remembered to be networks. Pocket mold electronic equipment It is combined with a website through a network. An internal computer The advertising approach which used the pocket mold electronic equipment by this invention which stores in memory the advertising information which it is outputted from a website and inputted through a network A website detects the installation of pocket mold electronic equipment, and distributes the advertising information according to an installation and/or current time to pocket mold electronic equipment.

[0017] As for the advertising approach which used the pocket mold electronic equipment by this invention, advertising information consists of a trademark, a trade name, and/or a catchphrase.

[0018]

[Embodiment of the Invention] Drawing 1 is the perspective view of the 1st portable telephone

concerning this invention. Drawing 1 (a) shows the appearance by the side of the transverse plane of a portable telephone, and drawing 1 (b) shows the appearance by the side of the tooth back of a portable telephone. As shown in drawing 1 (a), a portable telephone 100 is equipped with the display unit 1 and the keyboard unit 2. The keyboard unit 2 equips the front face with a keyboard 3 and a microphone 7. The display unit 1 equips the front face with the 1st display 4 and a loudspeaker 8, and equips the tooth back with an antenna 5. As shown in drawing 1 (b), the tooth back of the display unit 4 is equipped with the 2nd display 6.

[0019] The control computer which is not illustrated, the transmitter-receiver, and the power unit are formed in the interior of the keyboard unit 2. A control computer is equipped with a processor, memory, and an interface module. A processor manages the display control of voice and sending-and-receiving control of an electronic mail, the access control of a website, the reception control of advertising information, the 1st, and 2 displays 4 and 6, the writing of memory, read-out and elimination control, and also mode-of-operation setting control of a portable telephone. Memory memorizes various kinds of operational parameters required for specification of the operating environment of a voice-told message, electronic mail data, website data, telephone directory data, ringer tone data, and a portable telephone 100. A processor and memory are connected by the bus in a control computer. An interface module is equipped with the repeating installation and the signal converter which combine a processor with the keyboard unit 2, the 1st indicating equipment 4, the 2nd indicating equipment 6, a transmitter-receiver, a power unit, and other electric modules. A transmitter-receiver processes transmission and reception of voice data, electronic mail data, website data, and also advertising information based on control of a processor. A power unit equips the various electrical parts prepared in the portable telephone 100 with the power circuit and rechargeable battery which supply power.

[0020] The advertising information which downloaded the portable telephone 100 of the above configuration by control of a processor is stored in memory. This advertising information is downloaded by control by the processor through the radio telephone network of for example, a portable telephone system. Furthermore, this advertising information is downloaded by control of a processor through a wire telephone circuit or a data feeder. A data feeder means information supply servers, such as a website on the terminal unit installed in the convenience store, the game center, etc., and also the Internet, etc., in order to supply ringer tone data, wallpaper data, etc. A processor drives the 2nd display 6 with reference to the advertising information written in memory. This drive is performed while a portable telephone 100 is operated for a message, electronic mail transmission and reception, and website access. That is, those who observe the busy condition of a portable telephone 100 from the perimeter can recognize the contents of the 2nd display.

[0021] Advertising information means image information or text required in order to display a trademark, a trade name, a catchphrase, the appearance of goods, etc.

[0022] Drawing 2 is the block diagram of the keyboard unit of the portable telephone concerning this invention. Drawing 2 (a) shows the example of the 1st display of a keyboard 3. Drawing 2 (b) shows the example of the 2nd display of a keyboard 3. The issue component published by the predetermined color is prepared in the interior of each key which constitutes a keyboard 3. Moreover, the significance is reacted and given in a predetermined issue color, and information is prepared in the inside or front face of each key.

[0023] On the other hand, the portable telephone 100 concerning this invention can operate by two or more modes of operation. This mode of operation means talk mode, electronic mail mode, the web access mode and also a music playback mode, game mode, etc. A mode of operation can be set up using the mode change key on a keyboard 3 (drawing 2 (a) "mode"). For example, whenever a mode change key is pressed, a sequential change of the mode is made. The actuation monitor and mode change of a mode change key are processed by the processor.

[0024] A portable telephone 100 is started by the power up and talk mode. The significance is given and information is established with the fluorescent material reacted to a green light corresponding to talk mode. A processor will drive the green light emitting device in a keyboard 3, if powering on of a portable telephone 100 is detected. in this case, as shown in drawing 2 (a), each key is required for

actuation of talk mode -- the significance is given and information is displayed.

[0025] When a mode change key is operated, for example, game mode is set up, a processor drives the black light light emitting device in a keyboard 3. Moreover, the significance is given and information is established with the fluorescent material required for actuation in game mode reacted to the black light. for this reason, as shown in drawing 2 (b), each key is required for actuation in game mode -- the significance is given and information is displayed.

[0026] Thus, the location of the optimal key for a mode of operation and its semantics can be alternatively expressed by changing the luminescent color of a keyboard 3 by giving the significance with the fluorescent material which reacts to each key of a portable telephone 100 at the predetermined luminescent color, and establishing information.

[0027] Drawing 3 is the front view of the 2nd portable telephone concerning this invention. The portable telephone 101 shown in drawing is equipped with the display unit 11 and the keyboard unit 12. The keyboard unit 12 equips the front face with a keyboard 13 and a microphone 16. The display unit 11 equips the front face with the 1st display 14 and a loudspeaker 17, and equips the tooth back with an antenna 15.

[0028] The control computer which is not illustrated, the transmitter-receiver, and the power unit are formed in the interior of the keyboard unit 12. A control computer is equipped with a processor, memory, and an interface module by these configurations. A processor manages voice and sending-and-receiving control of an electronic mail, the access control of a website, the display control of a display 14, the writing of memory, read-out and elimination control, and also mode-of-operation setting control of a portable telephone. Memory memorizes various kinds of operational parameters required for specification of the operating environment of a voice-told message, electronic mail data, website data, telephone directory data, ringer tone data, and a portable telephone 101. A processor and memory are connected by the bus in a control computer. An interface module is equipped with the repeating installation and the signal converter which combine a processor with the keyboard unit 12, an indicating equipment 14, a transmitter-receiver, a power unit, and other electric modules. A transmitter-receiver processes transmission and reception of voice data, electronic mail data, website data, etc. based on control of a processor. A power unit equips the various electrical parts prepared in the portable telephone 101 with the power circuit and rechargeable battery which supply power.

[0029] This portable telephone 101 is foldable so that the front face of the display unit 11 and the front face of the keyboard unit 12 may face each other. As for this portable telephone 101, the microphone 16 is formed in the lower part of the keyboard unit 12. Similarly, a display 14 is formed in the upper part (the near antenna 15) of the display unit 11, and the loudspeaker 17 is formed in the lower part (a near folding hinge) of the display unit 11. A keyboard 13 is equipped with two or more keys which hold the alphabet of 26 characters.

[0030] Drawing 4 is the block diagram of the keyboard unit of the portable telephone concerning this invention. Drawing 4 (a) shows the example of the 1st display of a keyboard 13. Drawing 4 (b) shows the example of the 2nd display of a keyboard 13. The issue component published by the predetermined color is prepared in the interior of each key which constitutes a keyboard 13. Moreover, the significance is reacted and given in a predetermined issue color, and information is prepared in the inside or front face of each key.

[0031] On the other hand, the portable telephone 101 concerning this invention can operate by two or more modes of operation. This mode of operation means talk mode, electronic mail mode, the web access mode and also a music playback mode, game mode, etc. A mode of operation can be set up using the mode change key on a keyboard 13 ("mode"). For example, whenever a mode change key is pressed, a sequential change of the mode is made. The actuation monitor and mode change of a mode change key are processed by the processor.

[0032] When a mode change key is operated, for example, electronic mail mode is set up, a processor drives the orange light emitting device in a keyboard 13. Moreover, the significance is given and information is established with the fluorescent material required for actuation in electronic mail mode reacted to an orange light. for this reason, as shown in drawing 4 (a), each key is required for actuation

in electronic mail mode -- the significance is given and information is displayed. The "Sp" key shown in drawing is a space key. The "Cv" key is a conversion candidate selection key. The "Mk" key is a symbol input directions key. The "Sh" key is a Shift-key.

[0033] A portable telephone 101 is started by the power up and talk mode. The significance is given and information is established with the fluorescent material reacted to a green light corresponding to talk mode. A processor will drive the green light emitting device in a keyboard 13, if powering on of a portable telephone 101 is detected. in this case, as shown in drawing 4 (b), each key is required for actuation of talk mode -- the significance is given and information is displayed.

[0034] Thus, the location of the optimal key for a mode of operation and its semantics can be alternatively expressed by changing the luminescent color of a keyboard 13 by giving the significance with the fluorescent material which reacts to each key of a portable telephone 101 at the predetermined luminescent color, and establishing information.

[0035] In addition, in the case of electronic mail mode, as shown in drawing 4 (a), the significance is given and information is displayed in the state of sideways so that a portable telephone 101 can be used in the condition every width. On the other hand, in the case of talk mode, the significance is given and information is displayed in the state of longitude so that a portable telephone 101 can be used in the condition every length.

[0036] Moreover, when operating a portable telephone 101 with electronic mail mode and the web access mode, various operator guidance, such as kanji conversion, is performed. The keys 13a-13d to which the portable telephone 101 concerning this invention performs such operator guidance are arranged on the side face of the keyboard unit 12. Key 13a is operated when returning a list of for example, a conversion candidate. Key 13b is operated when changing a clause. Key 13c is operated when advancing a list of for example, a conversion candidate. Key 13d, when carrying out a conversion definite reference, for example, it is operated.

[0037] The operating environment as which the portable telephone 101 of explanation is required of each in talk mode and electronic mail mode is built above. For this reason, the suitable operating environment according to the operation mode can be offered. In addition, not only the array of lengthwise direction 3 train like illustration but the array of four trains, five trains, etc. is possible for the key arrangement on the keyboard unit 12. According to the change in the number of trains, the die length of the lengthwise direction of the keyboard unit 12 can be adjusted.

[0038] Drawing 5 is the perspective view of the 3rd portable telephone concerning this invention. The same sign is given to the same part as the portable telephone 100 shown in drawing 1 among the components of the portable telephone 102 shown in drawing. The strap 20 is shown in drawing. 20 is equipped with the cell box 22 and the annular cable 21. The cell box 22 can be equipped with a rechargeable battery. This rechargeable battery can generate the electrical potential difference according to the driver voltage of a portable telephone 102. The annular cable 21 consists of two cables which form annular.

[0039] The end of the annular cable 21 is electrically connected to the cell box 22. The many items of the annular cable 21 are connectable with the power supply terminal 23 prepared in the side face of the keyboard unit 2 of a portable telephone 102. Plus potential is impressed to a cable and minus potential is impressed to the cable of another side for while forming the annular cable 21.

[0040] The power supply terminal 23 is electrically connected to the power unit inside the keyboard unit 2. A power supply terminal 23 is electrically connected to the cell box 22 through the annular cable 21. The cell box 22 can be equipped with a rechargeable battery. The power of this rechargeable battery is supplied to a power unit through the annular cable 21 and a power supply terminal 23. In order to avoid the situation where power is supplied to for example, the cell box 22 side from a power unit, diode is formed in the cable run between a cell box and a power unit. This diode can be formed for example, in in the cell box 22 or a power supply terminal 23.

[0041] Moreover, the coil adjusted in the output coil of the charging equipment which is not illustrated can be prepared in the cell box 22. If inductive coupling of these coils is carried out, according to the power generated with charging equipment, the rechargeable battery in a power unit 2, i.e., a keyboard

unit, can be charged through the cell box 22, the annular cable 21, and a power supply terminal 23. For example, when the output terminal of charging equipment has the configuration adjusted in a power supply terminal 23, a charge condition can be set up by changing into the annular strap 21 and combining this output terminal with a power supply terminal 23.

[0042] The 3rd portable telephone 102 built over this invention of explanation above can supply power using the accessory of a portable telephone. For this reason, a supply voltage can be increased, without changing the appearance of a portable telephone.

[0043] Drawing 6 is the external view of the 4th portable telephone concerning this invention. Drawing 6 (a) shows the appearance by the side of the tooth back of a portable telephone 103. Drawing 6 (b) shows the appearance of the display concerning this invention. The same sign is given to the same part as the portable telephone 100 shown in drawing 1 among the components of the portable telephone 103 shown in drawing. A portable telephone 103 equips the tooth back of the display unit 1 with display applied part 6a. Display applied part 6a is the notch which can equip with a display 25. This notch 6a is equipped with the electric terminal which combines electrically an indicating equipment 25 and the internal computer in the keyboard unit 2. This display 25 is built from the LCD panel equipped with screen 25a. An internal computer can drive a display 25 with reference to the downloaded advertising information.

[0044] It can replace with a display 25 and photography equipment, an auxiliary storage unit, the interface for computers, a game program cassette, a karaoke control unit, the compact for makeup, an end plate, an advertising plate, etc. can be installed in notch 6a. Photography equipment consists of a CCD camera which performs photography processing by control of an internal computer. An internal computer can perform transceiver processing of attaching to an electronic mail further and transmitting which writes the image information generated by this photography equipment in memory. An auxiliary storage unit is used when making a cellular phone 103 memorize a lot of information, for example, a lot of electronic mails, a lot of web information, etc. The interface for computers means the network card for connecting with the USB interface card for connecting with a desktop computer, and LAN etc. A game program cassette is the program medium by which the program and data which control activation of the game which referred to the indicating equipment 4 prepared in the front-face side of the display unit 1 were stored. An internal computer performs the control. A karaoke control unit is the program medium by which the program and data which control activation of the karaoke which referred to the indicating equipment 4 prepared in the front-face side of the display unit 1 were stored. An internal computer performs the control. In addition, a karaoke control unit can carry a sound-source unit, and can download the data of a sound and words through a network further. The downloaded data are stored in the memory in a karaoke control unit. The compacts for makeup are the components with which powder or a paste for makeup etc. was contained, and the inside was further equipped with the mirror. This compact for makeup may be a pill case. An end plate is a plate-like part article with which a front face forms a mirror plane. An advertising plate means the plate on which the trademark, the trade name, etc. were stamped. This plate has the configuration which forms some cases of a portable telephone 103. For this reason, when notch 6a is equipped, as for an advertising plate, it is desirable to set up the configuration and texture which are united with the external surface of the display unit 1. Furthermore, the crevice established in the top face of not only the configuration of illustration but the display unit 1 is sufficient as the configuration of notch 6a. In this case, a display 25 and other alternate devices are equipped with the heights adjusted in a crevice. A display 25 and other alternate devices are fixed on the display unit 1 by adjustment of these crevices and heights.

[0045] The 4th portable telephone 103 built over this invention of explanation above can change the components with which notch 6a prepared in the display unit 1 is equipped. Therefore, the expansion of a portable telephone 103 and advertising media-ization can be set up using notch 6a.

[0046] This invention is not limited to the above example. In the example, although the cellular phone was explained to the example, this invention is applicable not only to a portable telephone but pocket mold computers, such as PDA. Moreover, a cell can use a primary cell, when not only a rechargeable battery but a charge function is not required.

[0047] Moreover, when advertising information downloads through a radio telephone network, a setup which the service space of a pocket mold terminal and use time zone \*\*\*\*\* advertising information download can be performed. In this case, the center which supplies advertising information detects the location where a pocket mold terminal exists from the position-report system of a cellular-phone system. A center can set up the advertising information to supply according to the detected positional information. A center supplies advertising information, for example, the fashion information, employment information, etc. for college students, when the positional information showing the enclosure of a university is detected.

[0048]

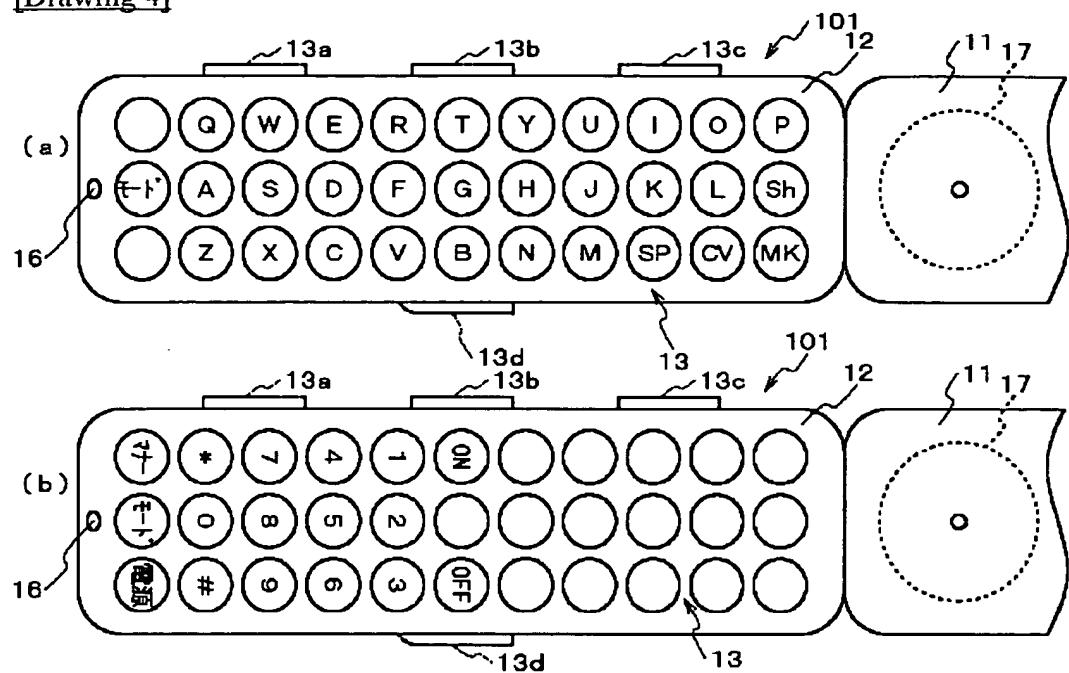
[Effect of the Invention] The pocket mold electronic equipment by this invention prepares a display in the part referring to the public notice during the use, and displays advertising information. That is, pocket mold electronic equipment can be used as advertising media.

[0049] The pocket mold electronic equipment by this invention can express and give the significance [ semantics / of the key on a keyboard ], and can change information according to a mode of operation. For this reason, it can notify of arrangement and its existence of the key according to a mode of operation.

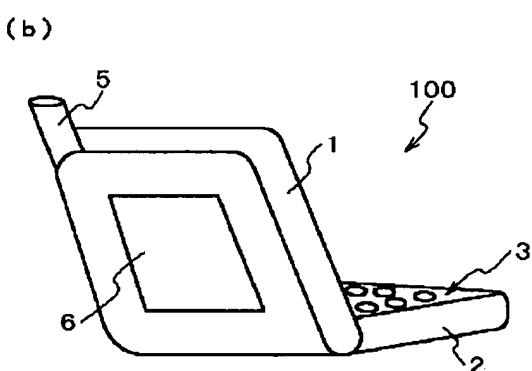
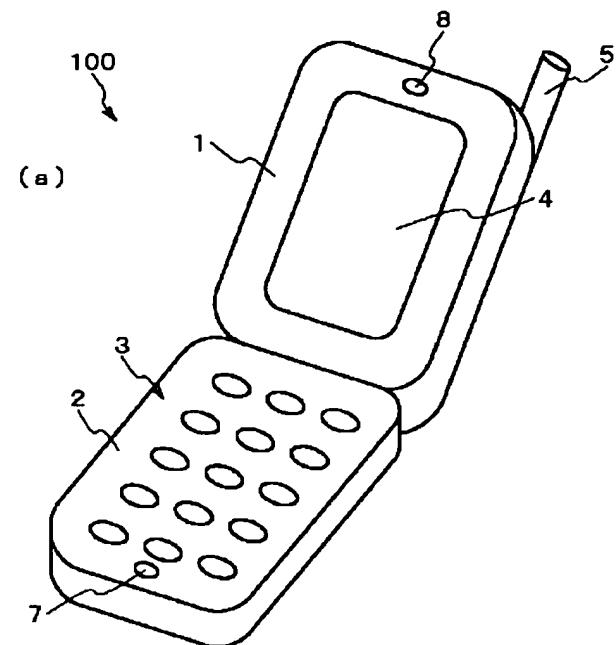
[0050] The pocket mold electronic equipment by this invention can prepare the auxiliary power for increasing drive time amount on a strap. For this reason, a supply voltage can be increased, without changing the appearance of pocket mold electronic equipment.

## DRAWINGS

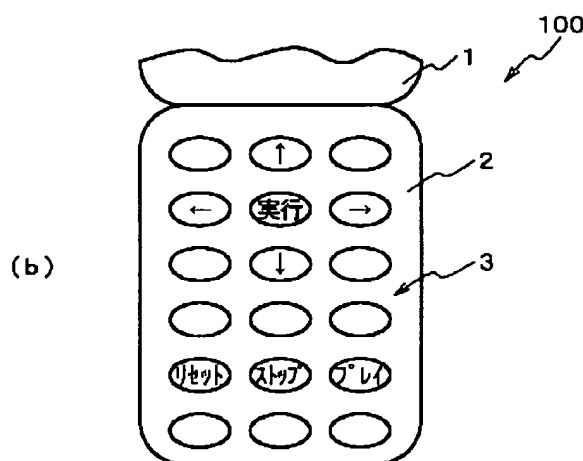
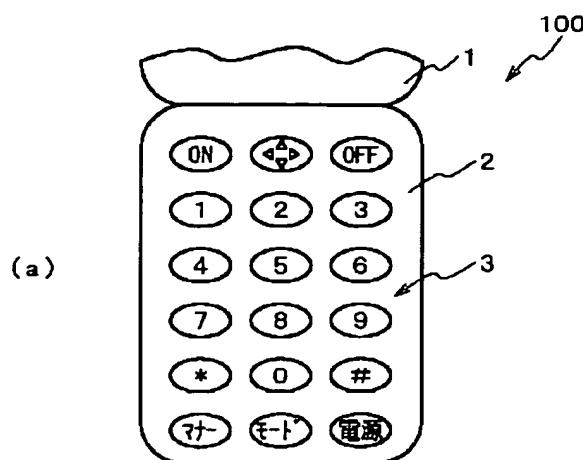
## [Drawing 4]



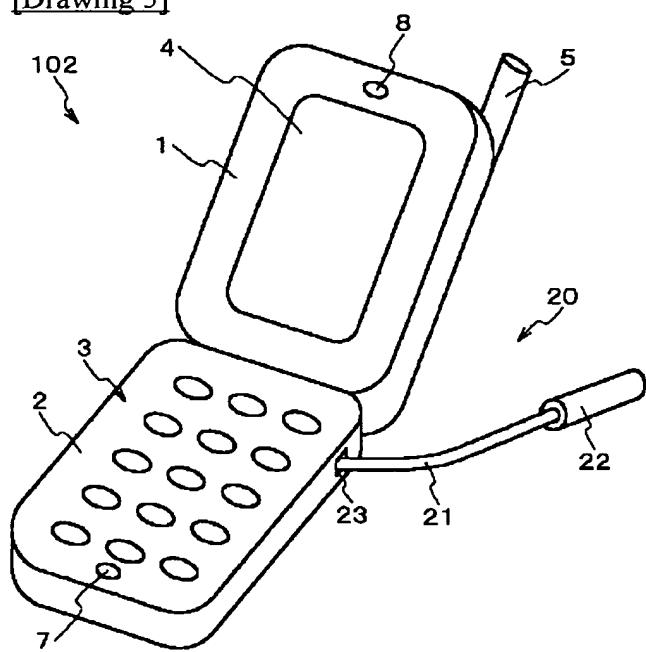
## [Drawing 1]



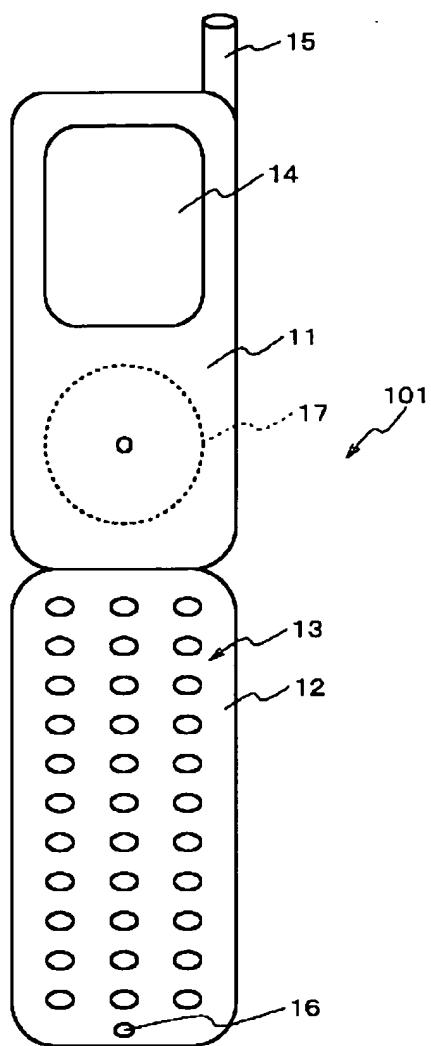
[Drawing 2]



[Drawing 5]



[Drawing 3]



[Drawing 6]

